Department of Ecology

In The Matter of Regulating the)
Emissions of Air Contaminants from) ORDER No. 1169-AQ04
Goldendale Aluminum Company)

To: Goldendale Aluminum Company
85 John Day Dam Road
Goldendale, WA 98620-9302

I. Regulatory Authority

The Department of Ecology (Ecology) issues this Order pursuant to the authorities set forth in Chapter 70.94 RCW, including RCW 70.94.141 (3), .152, .153, and .331; and WAC 173-400-110, and -114. The requirements in this Order describe the specific air emission limitations and operating conditions, and the methods, frequency, and format for monitoring and reporting that apply to Goldendale Aluminum Company (GAC). All regulations cited in this Order are those in effect on the date of Order issuance. Nothing in this Order relieves GAC of obligations under any applicable law or regulation.

II. Background

The aluminum smelter now known as "Goldendale Aluminum Company" commenced operations as "Martin Marietta" in November 1971. The facility was owned and operated by several different companies during the past 30 years. In late 1984 Martin Marietta sold the facility to Commonwealth Aluminum. Commonwealth operated the facility from 1985 through February 1987 when they closed the facility. The facility resumed operations under Columbia Aluminum Corporation from August 1987 through May 1996, when the Goldendale Aluminum Company assumed operations. All orders issued to previous owners apply to GAC. Numerous orders and amendments approved new, or modified, operations at the facility. GAC requested consolidation of these orders, primarily to facilitate Ecology's issuance of a Title V Air Operating Permit. Some terms and conditions in past orders did not lend themselves to incorporation into a Title V Air Operating Permit. Other terms and conditions no longer reflected current facility practices. A consolidated order has also enabled Ecology to achieve consistency in our approach to demonstrating compliance on parameters such as opacity. The remainder of Part II. (Background) of this order summarizes the history of the previously issued orders.

(A) Orders rescinded by previous action of Ecology.

1. Order No. DE 87-271 issued August 26, 1987. (Interim order with sunset provision).

2. Order No. DE 99 AQ-I001 (Cast House Modification). Replaced by Order No. DE 00AQIS-1783.

(B) Orders rescinded in total by this consolidated order –
The processes authorized by the following orders are no longer used and the equipment dismantled, or the orders are otherwise no longer applicable.

1. Order No. DE 91-I032 issued April 4, 1991. (Monitoring plan. Replaced with new plan).
2. Order No. DE 96AQ-I075 issued October 14, 1996. (Baghouses for anode abrader – deminimus PM level of 0.1 TPY, therefore no purpose for retaining original order).

(C) Docket and orders rescinded and replaced by this consolidated order –
The authorities to construct, install, and operate equipment approved by the following orders are included in this consolidated order.

1. Letter authorization issued September 28,1976. (Dry alumina scrubbing system on cell lines one and two).
2. Docket No. DE 78-391 issued August 22, 1978. (Third pot line).
3. Order No. DE 90-I001 issued July 23, 1990. (HEAF filter).
4. Order No. DE 96AQ-I074 issued October 14, 1996. (Baghouse for coke/pitch railcar unloader).
5. Order No. DE 96-AQI090 issued December 23, 1996. (Baghouse for cathode demolition building).
6. Order No. DE 98AQ-I012 issued May 1, 1998. (Baghouse for Briquette Silo #2).
7. Order No. DE 98AQ-I013 issued May 1, 1998. (Baghouse for Ore Silo #2).
8. Order No. DE 98 I042 issued December 15, 1998. (Line two Point Feed Project).
9. Order No. DE 00AQIS-1783 issued November 15, 2000. (Casthouse modernization amendment).

III. Terms and Conditions

1. This order identifies those conditions that currently apply to Goldendale Aluminum Co., and it deletes all other conditions contained in the original Orders referenced in Section II.
2. Goldendale Aluminum Co. shall comply with all the emission, operational, monitoring, and reporting requirements identified in this order.
3. All information required by the Department shall be submitted in the first monthly report after the data is available, unless otherwise specified herein.

4. Initiating corrective action, as used in the conditions throughout this order, can include but is not limited to: preparing a work order, ordering parts, shutting down the unit, or completing the repair.

5. Monitoring specified in this order is not required when the emission unit is not operating.

The following portion of Section III of this Order identifies process areas, summarizes the regulatory approval history, and specifies emission source or process area terms and conditions of this Order:

FACILITY-WIDE REQUIREMENTS

Background from letter authorization issued March 26, 2002

An ambient monitoring program is required as set forth in WAC 173-415-060. Goldendale Aluminum Co. (GAC) conducted off-site ambient monitoring for TSP, SO_2, ambient air HF and HF concentrations in forage. By letter dated March 6, 2002, GAC asked for relief from future monitoring for TSP, SO_2, and HF forage concentrations, and also requested that future ambient air HF monitoring be required only during the growing season. (March 1 through October 31).

Ecology approved discontinuation of off-site monitoring for TSP and SO_2. The permittee must continue to monitor its plant emissions for PM and SO_2 as required by WAC 173-415-030.

Ecology approved the permittee's request that ambient air monitoring for HF be required only during the growing season. (March 1 through October 31).

Ecology disapproved the request for discontinuation of forage monitoring for HF but will require monitoring only during the growing season (March 1 through October 31).
Ecology approved GAC's request for relief from TSP and SO_2 monitoring requirements based on many years of monitoring data.

The following conditions apply to the General Facility.

Ambient Air and Forage Fluoride Monitoring			
Condition No.	Pollutant/ Parameter	Description of Requirement	Monitoring and Reporting
A.1	Visible Emissions	Must not exceed an average of 20% opacity for more than 6 consecutive minutes in any 60-minute period.	The permittee shall conduct EPA Reference Method 9 (40 CFR Part 60, Appendix A) upon request by Ecology. If visible emissions are observed at stack(s) at any time, the observation shall be documented and corrective

			action initiated as soon as practical but not to exceed 24 hours after the observation. The permittee shall conduct a weekly functional integrity inspection of each emission unit and its air emission device (such as the baghouse). At minimum, the inspection shall include a visual/sensory check of the following parameters: visible emissions (no Method 9 test required), leaks in/out of any ductwork or housing, pressure drops, and excess vibration/noise. The permittee shall initiate corrective action as soon as practical but not to exceed 24 hours if problems are observed during the inspection. The inspection log and any resulting corrective action(s) shall be properly maintained for review. [WAC 173-401-615(1)(b) & -605(1)]
A.2	Ambient air HF	Monitor daily during growing season at stations G and H	Conduct daily monitoring for HF in ambient air during the growing season from March 1 through October 31. Use method ASTM D 3268 or an Ecology approved alternate. Report 24-hour average concentrations in ug/m3 in the monthly air emissions report.
A.3	F^- (fluoride ion) in forage	Monitor monthly during growing season at station G, and Maryhill Land Co. or Takahashi. See notes 1 and 2	Conduct monthly forage sampling and analysis during the growing season, from March 1 through October 31, using ASTM D 3270 or an Ecology approved alternate. Report as ppm F^- (fluoride ion) on a dried weight basis in the monthly air emissions report.

A.4	Fluoride (F) emissions	Sampling must be conducted in locations and during time periods consistent with protecting livestock and vegetation. Gaseous fluorides in the ambient air calculated as HF must not exceed: - 3.7 ug/m^3 for any 12 consecutive hours; - 2.9 ug/m^3 for any 24 consecutive hours; - 1.7 ug/m^3 for any 7 consecutive days; - 0.84 ug/m^3 for any 30 consecutive days; - 0.50 ug/m^3 average for period from March 1 through October 31 of any year.	The permittee shall comply with Conditions No. A.2 and A.3. The permittee shall monitor for compliance with the 24-hour standard. Ecology will deem compliance with the 24-hour standard as compliance with the 12-hour standard.
A-5	Operation and maintenance (O & M) Consistent with Good Air Pollution Control Practices	At all times, including periods of abnormal operation and upset, Goldendale Aluminum shall, to the extent practicable, maintain the facility, and operate and maintain air pollution control equipment in a manner consistent with good air pollution control practice. Ecology's determination of whether the permittee uses acceptable O&M procedures will be based on information available to Ecology that may include, but is not limited to: monitoring results, opacity observations, inspections of the source, and content of the O&M manuals. Emissions that result from the permittee's	The permittee shall maintain training records. [WAC 173-401-615(1)(b) and WAC 173-401-630(1)] Copies of the permittee's O&M manuals must be available for Ecology inspector's review.

		failure to follow the requirements of the manuals may be considered proof that the equipment was not properly operated and maintained.	

NOTE 1: GAC shall make every reasonable effort to collect representative's samples. However, vegetative samples may not always be available throughout the growing season. Specified forage monitoring is not required if samples are not available. GAC shall explain the reasons, in the following monthly air emissions report, for any missed sampling.

NOTE 2: GAC shall sample forage, when available, from at least one location east and west of the facility. The forage sample from west of the plant may be from either the Takahashi or the Maryhill site. The results from all sampling will also be reported in the following monthly air emission report.

POTROOM OPERATIONS

Background from letter authorization issued September 28, 1976

The Department of Ecology, under provisions of WAC 18-52 reviewed the documents and specifications provided with the notice of construction for a dry scrubbing system. (This project consisted of the dry alumina scrubbers for potlines one and two.) The basis of this review were the system specifications, technical terms, and performance as described in Flakt SF Air Control Inc. (SFAC-718.055 Rev. A) dated February 17, 1976, together with the document, "Environmental Assessment of SO_2 Ground-level Concentrations for Proposed Dry-Scrubber Modification to the Goldendale Plant," August 1976, Martin-Marietta, Baltimore, Maryland.

The Department of Ecology found that the proposed project met the requirements of Chapter 18-52 WAC.

The letter authorizing construction, installation and operation of the project was issued on September 28, 1976.

GAC requested termination of the ambient SO_2 monitoring requirement in a letter dated March 6, 2002. Ecology approved the request by letter dated March 26, 2002.

Ecology amended GAC's PSD Permit on November 14, 2003. This Consolidated Order does not include the requirements of the amended PSD Permit which is a stand-alone permit. The PSD permit defines approval conditions for emission limits for air pollutants, limits the number of days the permittee may take to startup a shutdown cell line or cell section, and prescribes emissions testing, monitoring and reporting requirements.

The PSD Permit does not address the monitoring frequency of the primary control system. Instead, the letter of September 28, 1976 requires that "Stack emission tests shall be

made for particulates, fluorides, and SO_2 using approved sampling methods. Each stack shall be sampled a minimum of three (3) times per month and include all operating shifts." This stack emission test requirement will be addressed at the condition B.24 of the Air Operating Permit (AOP). The frequency of source tests for SO_2 hae been reduced from monthly to annually because GAC installed SO_2 wet scrubbers in the early 1980's.

Condition B.1 (B.22) The permittee shall conduct monthly source tests of the primary system for particulates and fluorides for each cell line. The permittee also shall conduct annual source tests for SO_2 for each cell line. The permittee shall use EPA Reference Methods or EPA approved methods to conduct the required stack emission tests. The permittee shall sample each stack a minimum of three (3) times per month at different hours of the day, to include all operating shifts.

Background from Order No. DE 78-391

The Department of Ecology conditionally approved the expanded aluminum reduction capacity at the Martin Marietta Aluminum reduction plant located near the Columbia River John Day Dam in KIickitat County, Washington.

Order No. DE 78-391 authorizing construction, installation and operation of the project was issued on August 22, 1978 with the following conditions:

1. The project shall be constructed and operated as described in the project description documents. Project changes which may in any way offset emissions shall be approved by the department.
2. The expanded facilities shall meet the air emissions limitations, ambient fluoride standard and monitoring and sampling requirements described in Washington Administrative Codes 18-48 and 18-52.
3. The expanded facilities shall continuously meet the provision of "Standards of Performance for Primary Aluminum Reduction Plants" as described in Subpart S, Part 60 of Chapter I, Title 40 of the Code of Federal Regulations, January 26, 1976.
4. In addition to the above, the following requirements are imposed to reflect all known available and reasonable methods of emission control:
    a. The expanded reduction facility shall not be started until an approved start-up plan is approved by the department.
    b. The production related emission standards will be waived during the start-up plan period.
    c. The primary reduction cells shall not be used for re-melting or seating purposes.
    d. An engineering study shall be conducted and submitted to the department by January1, 1979, which determines the feasibility of reduction emissions from cell aluminum tapping.

Ecology intended to delete the above order after EPA issued a PSD Permit in 1988, but overlooked the opportunity. GAC requested deletion of the order in a letter dated April 15, 1998, but because the PSD Permit issued in 1988 established more stringent limitations than had Order No. DE 78-391, the Permit superseded previously applicable conditions.

Background from Order No. DE 98 I042

On May 11, 1998, Goldendale Aluminum submitted a Notice of Construction Application (NOCA) to construct, install, and operate a test section (B5) of cells utilizing point feeders and other technology improvements, the "Point Feed Project." The installation includes: point feeders, point feed cell computer logic, improved cathode bus magnetics and a booster rectifier.

The Project was to use Hydro's Soderberg technology, a modified cathode design that enables the cell to operate at increased amperage without overheating. The increased amperage in turn results in more metal units being produced at essentially the same fixed cost.

On December 15, 1998, the Department of Ecology issued Order No. DE 98 I042 authorizing the construction, installation and operation of the project as described in the NOCA, including the booster rectifier, with the following conditions:

1. The emissions measured from the test section B5 shall be included in the plant's compliance determination with PSD permit No. PSD-X 88-01. Beginning the month after the test section is modified to point feed and the test section amperage is increased, GAC shall conduct monthly source testing for CO and SO_2 air emissions from Section B5. The test results shall be reported on the monthly air monitoring report.
2. The increase of CO emissions from the test section B5 shall be limited to 99 tons per year. For CO compliance, beginning the month after the test section is modified to point feed and the test section amperage in increased, GAC shall report to Ecology on the monthly air monitoring report the following information: a) test section current efficiency, b) test section amperage, and c) test section aluminum production. GAC shall calculate the CO emission increase as follows: the test section incremental aluminum production increase multiplied by 0.113 ton CO/TAP (the 1996-97 CO emission factor).
3. For any CO increase beyond the 99 tons per year limit for the test section, GAC is allowed to use offsets from other potroom sections. GAC shall get an approval from Ecology prior to any usage of offsets. And GAC shall report the offsets on the monthly air monitoring report.
4. GAC shall report all the physical changes in process equipment and air emission control equipment in the section B5 on the monthly air monitoring report.
5. GAC shall share all the emissions testing results at the section B5 with Ecology.

6. GAC shall submit its emissions sampling plan to Ecology. The plan shall include all pollutants to be tested and the frequency and duration for each pollutant to be tested.

On January 14, 1999, the EPA Region 10 issued a letter to Goldendale Aluminum Company that determined the project did not trigger PSD applicability. GAC operated the project for a couple of years and terminated the project during the plant curtailment in 2001-2002. The booster rectifier, while not physically connected to the cell lines, is still located on the plant site. The booster rectifier has not been used since the December 2000 section B-5 curtailment. Future use of the booster rectifier will require Ecology approval prior to that use. This order retains the initial authority provided to the permittee in Order No. DE 98 I042 that authorized the construction, installation and operation of the booster rectifier and other project technology improvements.

Condition No. B.2 The permittee shall contact Ecology and get Ecology approval prior to using the booster rectifier as part of cell line operation. Ecology may need to conduct a new source review for any potline air emissions increase caused by the reuse.

PASTE PLANT OPERATIONS

Background From DE 90-I001

On December 11, 1989, Columbia Aluminum Corporation submitted a Notice of Construction Application (NOCA) for the installation of a Rotary Drum High Efficiency Air Filter (HEAF) unit in the paste plant fume collection and treatment system at their Goldendale aluminum smelter.

On July 23, 1990, the Department of Ecology, State of Washington, pursuant to RCW 70.94.152 and WAC 173-403-050, issued Order DE 90-I001 with the following conditions:

1. Within 180 days of startup an operation and maintenance plan shall be developed and followed including, but not limited to differential pressure across the filter media bed, filter belt feed advance rate or pressure differential setting for automatic filter belt advance, inlet pressure to the HEAF unit, seal inspection schedule, and drive assembly and belt tension check schedules.
2. Failure to follow the operation and maintenance manual shall be considered evidence that proper operation and maintenance procedures were not followed. The manual shall be reviewed regularly and updated as necessary.
3. Performance (source) testing shall be conducted within 90 days after installation of the Rotary Drum HEAF unit. The performance test shall determine the inlet and outlet concentration of the principal PAH constituents, and the unit's removal efficiency. At least 30 days prior to testing, Columbia shall submit a plan for Department review and approval detailing the test methods and procedures. Columbia shall provide the Department at least two weeks prior

notice of any performance test to afford the Department the opportunity to have an observer present. Annual performance testing shall be conducted thereafter.

4. Columbia shall determine the relative potency of PAH emissions by the Relative Potency Method.

5. Emissions from the unit shall not exceed five percent opacity. No visible emissions shall be present elsewhere in the system.

The Order required the permittee to conduct annual source testing but did not set a limit for PAHs. GAC has improved PAH removal efficiency since issuance of the 1990 Order by adding a cooler to reduce the off-gas temperature prior to filtration.

EPA set POM limits through MACT. PAHs are a small subgroup of POM. Ecology believes that it will not be cost effective to continue to measure PAHs in addition to measuring POM which is required by MACT.

On November 22, 1999, EPA Region 10 approved both GAC's request to use the HEAF system as an alternative control device, and GAC's parametric monitoring plan of the HEAF system. The HEAF scrubbing system collects hydrocarbon fumes from the H7 coke preheater, H8 paste mixer, H9 paste mixer and H9 extruder. The operational parameters include airflow, temperature, stack opacity, indoor visual inspections, and cabinet pressure (inlet duct negative pressure).

Each day the paste plant is in operation, the permittee must perform a daily operations check of the HEAF Unit and record the results on a recording sheet. The sheet is intended to be a record for one calendar month in a year. At the end of each month, the permittee must send the completed form to the Environmental Technicians to be kept in their file for at least 3 years. The permittee shall keep a copy of each completed checklist sheet near the Paste Plant Operations as backup.

The permittee shall record the following information on the checklist:

DATE: The date of the Daily Operations Check.

HEAF BLOWER FAN AMPERAGE: Blower fan amperage is indicated on the control panel meter. The operator shall note fan amperage and confirm it is between 90 and 110 amps. The operator shall contact maintenance if amperage is out of range.

CABINET PRESSURE: Cabinet pressure is indicated on the control cabinet. The operator shall note and record the pressure range which shall be maintained between 3.1 and 3.7 inches. The operator shall contact maintenance if the pressure is out of range.

PRESSURE DROP ACROSS MIST ELIMINATOR: The pressure drop across the mist eliminator is indicated on the control cabinet. The operator shall note and record the pressure drop which shall be maintained at less than 0.25 inches. The operator shall contact maintenance if the pressure drop is greater than 0.25 inches.

VISUAL STACK EMISSIONS: An operator shall observe the stack for visual emissions (Note: the sun shall be behind the operator at the time of the observation). If a plume is visible (heat waves are not emissions), the operator shall contact maintenance.

OPERATOR'S INITIALS: The operator performing the Daily Operations Check shall initial the sheet, attesting to the results of the Daily Operations Check.

The HEAF Unit is an essential part of the Paste Plant's environmental systems. If the HEAF Unit is not operating within acceptable limits, or shuts down for any reason, the Paste Plant must be shut down until the problem is corrected.

Therefore, the conditions of the Order have been changed to:

Paste Plant – HEAF Filter			
Condition No.	Pollutant/ Parameter	Description of Requirement	Monitoring and Reporting
C.1	Particulate	Emissions of particulate material from any general process operation shall not exceed 0.1 grains/dscf of exhaust gas.	The permittee shall conduct am emission test once every five years using EPA Reference Method 5 (40 CFR Part 60, Appendix A), or another EPA approved method.
C. 2	POM	Shall not exceed 0.011lb POM /ton of paste produced.	The permittee shall conduct an emission test once every year using EPA Reference Method 315 (40 CFR Part 63, Appendix A) or another EPA approved method.
C.3	Temperature	The HEAF exit temperature shall be in range of 75º to 93ºF. It is monitored in the OPT022, factory floor control. The Hi (93ºF) and Low (75ºF) alarms will be displayed on the 4th floor control screen.	The permittee shall identify the cause and take corrective action when the Hi alarm is initiated. The permittee shall shut down the cooler air supply fan when the Low alarm is initialted. The permittee shall record the time and the date when the alarms initiate and when corrective action is taken. The permittee also shall record the cause of the alarm and the action taken to correct it.
C.4	HEAF Unit Daily Operations Check	The permittee shall perform the Daily Operations Check and record the checklist which includes: Date, HEAF blower fan amperage, cabinet pressure, pressure	Each day the Paste Plant is in operation, the permittee shall perform and record a Daily Operations Check of the HEAF Unit on a monthly recording sheet. The permittee shall record the date, check and record the readings for the HEAF blower fan amperage, cabinet pressure, pressure drop across media, and pressure drop across the mist

		drop across filter media, pressure drop across mist eliminator, and visual stack emissions.	eliminator, and describe any visual stack emissions (Note: the sun shall be behind the operator at the time of the observation) and the operator shall initial the recording sheet. Operating Ranges: • HEAF Blower Fan Amperage: 90-110 amps • Cabinet Pressure: 3.1 – 3.7 inches • Pressure Drop across media: 25 – 33 inches of water • Pressure drop across mist eliminator: less than 0.25 inches The permittee shall contact maintenance when visual stack emissions occur, or when any parameter is out of its range. If the HEAF Unit is not operating within the acceptable ranges/standards, or shuts down for any reason, the Paste Plant must be shut down until the problem is corrected.

ANCILLARY OPERATIONS

Background from DE 96AQ-I074

On September 17, 1996, Goldendale Aluminum Company submitted a Notice of Construction Application (NOCA) to install an additional, new baghouse at the coke/pitch railcar unloader to reduce fugitive emissions. Emissions from the new baghouse would not exceed 0.01gr/dscf. The new baghouse would reduce fugitive emissions at the unloading area. Normal operation of the baghouse is estimated to be 4,668 hours per year. Total particulate emissions from the baghouse are estimated to be 2 tons per year.

On October 14, 1996, the Department of Ecology, State of Washington, pursuant to RCW 70.94.153 and WAC 173-400-114, issued the Order with following conditions:

1. Allowable emission limitations shall be as follows:
   a. Particulate emission concentrations from the new baghouse system shall not exceed 0.01 grains per dry standard cubic foot.
   b. No visible emissions shall be observed at the stack of the baghouse.
   c. No visible emissions shall be present elsewhere in the system described in the application.
2. Within 90 days of the date of this Order, operation and maintenance manuals for all associated equipment that has the potential to affect emissions to the atmosphere shall be developed and followed. This shall include work practices

associated with this system. Copies of the manuals shall be available to Ecology. Emissions that result from a failure to follow the requirements of the manuals may be considered proof that the equipment was not properly operated and maintained.

3. An inspection log of this emission unit shall be maintained. Inspections shall be at least monthly, on a form approved by Ecology. Failure to maintain the inspection log may result in penalties.

The permittee can reduce air pollution releases from emission units by performing a weekly functional integrity inspection. The inspection should enhance good operation and maintenance practices.

These conditions have been consolidated as follows:

Coke/Pitch Railcar Unloader Baghouse			
Condition No.	Pollutant/ Parameter	Description of Requirement	Monitoring and Reporting
D.1	Particulate	Shall not exceed 0.01 gr/dscf.	The permittee shall conduct an emission test upon Ecology's request, using EPA Reference Method 5 (40 CFR Part 60, Appendix A), or another EPA approved method. Comply with condition A.1 as the indicator of continuous compliance.
D.2	Visible Emissions	Opacity shall not exceed an average 5% opacity for more than six consecutive minutes in any 60-minute period.	The permittee shall comply with condition No. A.1.
D.3	Baghouse Functional Integrity	Inspection	The permittee shall comply with condition No. A.1.

Background from DE 96-AQI090

On March 3, 1992, Columbia Aluminum Corporation (CAC), now Goldendale Aluminum Company, submitted a Notice of Construction Application (NOCA) for an existing baghouse servicing the cathode demolition building. The project consists of two baghouses with individual fans and stacks. The airflow of each baghouse is 56,000-scfm for a total of 112,000-scfm for the project.

December 23, 1996, the Department of Ecology, State of Washington, pursuant to RCW 70.94.152 and Chapter 173-400-110 WAC, issued the Order with following conditions:

1. Allowable emission limitations will be as follows:

a. Particulate emission concentrations from the baghouse stacks shall be not exceed 0.005 grains per dry standard cubic foot.

b. No visible emissions shall be emitted from the SPL baghouse stacks.

2. Within 90 days of the date of this Order, the permittee shall develop operation and maintenance manuals for all associated equipment having potential to affect emissions to the atmosphere. The operator shall follow the manuals' instructions, including all work practices associated with this system. The permittee shall make copies of the manuals available to Ecology. Emissions that result from a failure to follow the requirements of the manuals may be considered proof that the equipment was not properly operated and maintained.

3. The permittee shall maintain an inspection log of this emission unit. The permittee shall inspect this emission unit at least monthly, and shall record the results on a form approved by Ecology. Failure to maintain the inspection log may result in penalties.

4. The permittee applied Best Available Control Technology (BACT) to the design of this construction project.

The permittee can reduce air pollution releases from emission units by performing a weekly functional integrity inspection. The inspection should enhance good operation and maintenance practices. Existing conditions are consolidated into new conditions:

Cathode Demolition Building Baghouses (2)			
Condition No.	Pollutant/ Parameter	Description of Requirement	Monitoring and Reporting
D.4	Particulate	Shall not exceed 0.005 gr/dscf.	The permittee shall conduct an emission test once a year using EPA Reference Method 5 (40 CFR Part 60, Appendix A), or another EPA approved method. Comply with condition A.1 as the indicator of continuous compliance.
D.5	Visible Emissions	Opacity shall not exceed 5% for more than six consecutive minutes in any 60-minute period.	The permitted shall comply with condition No. A.1.
D.6	Baghouse Functional Integrity	Inspection	The permitted shall comply with condition No. A.1.
D.7	Operating hours	The operation of each baghouse shall be limited to a maximum of 6,120 hours per year.	The permittee shall install an hour meter on each of the baghouse fans. Hours shall be logged monthly and reported annually.

Background from DE 98AQ-I012

On March 5, 1998, Goldendale Aluminum Company (GAC) submitted a Notice of Construction Application (NOCA) for a new baghouse that would replace an existing system over Briquette Silo #2. GAC will install a new 4,777-acfm Flex-Kleen baghouse to replace the old Mikro Products dust control system. The new baghouse would not exceed 0.005 gr/dscf. The permittee estimates that this baghouse has potential to emit 0.89 ton of dust per year. GAC estimates that the actual emission will be 0.56 ton of dust per year. The maximum number of hours that this baghouse would operate is 8,760 per year.

On May 1, 1998, the Department of Ecology, State of Washington, pursuant to RCW 70.94.153 and WAC 173-400-114, issued the Order with following conditions:

1. Allowable emission limitations will be as follows:
    a. Particulate emission concentrations from this new baghouse shall not exceed 0.005 grains per dscf and 4.9 pounds per day. EPA Method 5 shall be used for compliance.
    b. Opacity from the stack of this baghouse shall not exceed five percent. EPA Method 9 shall be used for compliance.
    c. No visible emissions shall be present elsewhere in the system described in the application. EPA Method 22 shall be used for compliance.
2. Within 90 days of the date of this Order, operation and maintenance manuals for all associated equipment that has the potential to affect emissions to the atmosphere shall be developed and followed.
3. An inspection log of this emission unit shall be maintained. Inspections shall be at least monthly, on a form approved by Ecology. These inspections shall commence within 30 days of startup of the new system. Failure to maintain the inspection log may result in penalties.

The permittee can reduce air pollution releases from emission units by performing a weekly functional integrity inspection. The inspection should enhance good operation and maintenance practices.

The existing conditions are consolidated to new conditions as follows:

Briquette Silo #2 Baghouse			
Condition No.	Pollutant/ Parameter	Description of Requirement	Monitoring and Reporting
D.8	Particulate	Shall not exceed 0.005 gr/dscf.	The permittee shall conduct an emission test upon Ecology's request using EPA Reference Method 5 (40 CFR Part 60, Appendix A), or another EPA approved method.
D.9	Visible Emissions	Opacity shall not exceed 5% for more	The permittee shall comply with condition A.1.

		than six consecutive minutes in any 60-minute period.	
D.10	Baghouse Functional Integrity	Inspection	The permittee shall comply with condition A.1.

Background from DE 98AQ-I013

On March 8. 1998, Goldendale Aluminum Company (GAC) submitted a Notice of Construction Application (NOCA) for a new baghouse that would replace an existing system for Alumina Silo #2. GAC would install a new 3,940-acfm Flex-Kleen baghouse and discontinue the connection to the East Primary Dry Scrubber. Releases from the new baghouse would not exceed 0.005 gr/dscf. The permittee estimated the potential to emit pollutants from this baghouse at 0.74 ton per year. GAC estimated that actual emissions would be 0.46 ton per year. The maximum time that the permittee can operate this baghouse would be 24 hours per day, 365 days per year.

On May 1, 1998, the Department of Ecology, State of Washington, pursuant to RCA 70.94.153 and WAC 173-400-114, issued the Order with following conditions:

1. Allowable emission limitations will be as follows:
    a. Particulate emission concentrations from this new baghouse shall not exceed 0.005 grains per dscf and 4.05 pounds per day. EPA Method 5 shall be sued for compliance.
    b. Opacity from the stack of this baghouse shall not exceed five percent. EPA Method 9 shall be used for compliance.
    c. No visible emissions shall be present elsewhere in the system described in the application. EPA Method 22 shall be used for compliance.
2. Within 90 days of the date of this Order, operation and maintenance manuals for all associated equipment that has the potential to affect emissions to the atmosphere shall be developed and followed.
3. An inspection log of this emission unit shall be maintained. Inspections shall be at least monthly, on a form approved by Ecology. These inspections shall commence within 30 days of startup of the new system. Failure to maintain the inspection log may result in penalties.

The permittee can reduce air pollution releases from emission units by performing a weekly functional integrity inspection. The inspection should enhance good operation and maintenance practices.

The existing conditions are consolidated into new conditions as follows:

Alumina Silo #2 Baghouse			
Condition No.	Pollutant/ Parameter	Description of Requirement	Monitoring and Reporting
D.11	Particulate	Shall not exceed 0.005 gr/dscf.	The permittee shall conduct an emission test upon Ecology's request, using EPA Reference Method 5 (40 CFR Part 60, Appendix A), or another EPA approved method.
D.12	Opacity	Shall not exceed 5% for more than six consecutive minutes in any 60-minute period.	The permittee shall comply with condition A.1.
D.13	Baghouse Functional Integrity	Inspection	The permittee shall comply with condition A.1.

CASTHOUSE OPERATIONS

Background from DE 00AQIS-1783

On January 20, 1999 Goldendale Aluminum Company (GAC) submitted a Notice of Construction Application (NOCA) to Ecology for permission to modify the casthouse. The original modification proposal included installation of a new melting and holding furnace (TMH), two in-line degassers, two homogenizing furnaces, four new dross coolers, and a dust collection system. Approval Order DE 99 AQ-1001, issued August 12, 1999, included requirements for the proposed dust collection system. The permittee commenced operating the TMH furnace on December 28, 1999, but never installed the dust collection system. After Ecology noticed the absence of the dust collection system, the permittee submitted a revised NOCA on July 13, 2000. The permittee shut down the TMH furnace on October 5, 2000, pending resolution of the dust collection system issue. A subsequent analysis concluded that the dust collection system would not be cost effective and therefore did not constitute BACT. This amended order is the NOCA Approval Order for modification of the casthouse and deletes the original proposed dust collection system.

The permittee expects this modification to raise its aluminum billet production from 13.5 to 22 million pounds a month. The modification will not change the total aluminum production from the potrooms. The new natural gas fired melting and holding furnace has low NOx burners and is rated at 10 MMBtu/hr. The furnace is capable of holding 35,000 lbs/hr of charge and has a melting capacity of 6,000 lbs/hr. Each of the two natural gas fired log homogenizing furnaces has low NOx burners and is rated at 30 MMBtu/hr. One cooling chamber serves both of the new furnaces. The cooling chamber provides air quench or stepped cooling for loads of logs or billet. The two new in-line degassers will replace an existing degasser. The four inert gas dross coolers will operate under a positive pressure

Argon rich atmosphere. Drosses oxidize readily above 400^{O} C, causing a loss of valuable aluminum metal and creating dust. Therefore, dross needs to be cooled as rapidly as possible in order to minimize both aluminum metal losses and dust creation.

The permittee will operate the melting and holding furnace 24 hours per day for 365 days per year. The permittee estimates emissions from this furnace of 0.33 ton per year for PM and 3.68 tons per year for CO. Each of the homogenizing furnaces has an airflow rate of 6,000 acfm. The permittee will operate the homogenizing furnaces 24 hours per day for 365 days per year. The permittee estimates emissions from the two homogenizing furnaces of 2 tons per year for PM and 22 tons per year for CO. The in-line degassers and dross coolers release almost no air emissions.

GAC proposed to use natural gas for the fuel and low NO_X burners for all three furnaces as BACT. After reviewing the proposal, Ecology determined the proposed BACT acceptable.

Ecology requested additional information during the processing of this application. GAC submitted additional information on February 2, June 15, and July 20, 1999, and BACT information on October 30, 2000. After reviewing the additional information, Ecology determined the application complete on November 9, 2000.

On November 15, 2000, the Department of Ecology, State of Washington, pursuant to RCW 70.94.152 and WAC 173-400-110, issued the Order with the following conditions:

1. Allowable emission limitations will be as follows:
    a. CO and NOx emissions from each homogenizing furnace shall not exceed 0.044 lb/MMBtu and 0.098 lb/MMBtu respectively.
    b. CO and NOx emissions from the melting and holding furnace shall not exceed 0.056 lb/MMBtu and 0.077 lb/MMBtu, respectively.
    c. Opacity from the stacks of all three furnaces shall not exceed five percent. EPA Method 9 shall be used for compliance.
    d. No visible emissions shall be present elsewhere in the system described in the application. EPA Method 22 shall be used for compliance.
    e. All three furnaces shall be natural gas fired. Propane is the only backup fuel allowed to be used in these furnaces.
2. Within 90 days of the date of this Order, operation and maintenance manuals for all associated equipment that has the potential to affect emissions to the atmosphere shall be developed and followed.
3. GAC shall conduct an initial source test at the melting and holding furnace and one of the two homogenizing furnaces for particulate matter (PM), CO, and NOx within 90 days after startup of the furnaces. Once every two years, GAC shall conduct source testing at one of these two homogenizing furnaces for CO and NOx.

In December 2000 and on February 6, 2001 Goldendale advised Ecology by telephone that the homogenizing furnaces could not meet the carbon monoxide lb/MMBtu limit in the Order. On February 8, 2001 Goldendale confirmed the problem by a letter that also included information on action Goldendale was taking with the equipment vendors to obtain further information. On March 12, 2001 Goldendale submitted a letter with additional testing information and attachments from Canafco Limited (the furnace manufacturer) and Mr. Harold Howell (the cast house project consulting engineer).

This information verified that the furnaces could not meet the specified lb/MMBtu limit. Although the measured CO emissions of 4.83 T/y per furnace were much less than the 22 T/yr total CO from both furnaces (as estimated in the NOC application and referred to in the background information for the order), Goldendale requested that the CO limit and monitoring be deleted from the homogenizing furnaces and the melting /holding furnace. According to the sampling results GAC obtained, little—if any—environmental benefit could be achieved by retaining a CO limit or monitoring. Available information showed that CO limits and/or monitoring were not required for homogenizing furnaces anywhere in the country. The permittee estimated CO emission from the melting/holding furnace is below the level considered by Ecology to be insignificant.

Ecology reviewed the request and available information and agrees to omit the CO limits or monitoring on these furnaces. Ecology has determined that natural gas fuel and low NO_X burners are BACT for the furnaces. The BACT determination, combined with the low emissions (determined by the monitoring data already collected) are sufficient grounds to delete the CO limits and routine CO monitoring requirements for the two homogenizing furnaces and the melting/holding furnace.

The existing conditions are consolidated to new conditions as follows:

Homogenizing Furnace No. 4 and 5			
Condition No.	Pollutant/ Parameter	Description of Requirement	Monitoring and Reporting
E.1	NO_X	Shall not exceed 0.098 lb/MMBtu for each furnace.	The permittee shall conduct an emission test on each homogenizing furnace every five years using EPA Reference Method 7E (40 CFR Part 60, Appendix A) or another EPA approved method.
E.2	Visible Emissions	Opacity shall not exceed 5% for more than six consecutive minutes in any 60-minute period.	The permittee shall comply with condition A.1.
E.3	Furnace Functional Integrity	Preventive maintenance (PM) schedule.	The permittee shall comply with condition A.1.

E.4	Fuel	The furnaces shall be fired by natural gas. Propane is the only backup fuel allowed.	Collect monthly fuel usage records and make records available to Ecology and EPA upon request.

The existing conditions are consolidated to new conditions as follows:

Tilter Melter/Holder Furnace			
Condition No.	Pollutant/ Parameter	Description of Requirement	Monitoring and Reporting
E.5	NO_X	Shall not exceed 0.077 lb/MMBtu.	The permittee shall conduct an emission test every two years using EPA Reference Method 7E (40 CFR Part 60, Appendix A) or another EPA approved method.
E.6	Visible Emissions	Opacity shall not exceed 5% for more than six consecutive minutes in any 60-minute period.	The permittee shall comply with condition A.1.
E.7	Furnace Functional Integrity	Preventive maintenance (PM) schedule	The permittee shall follow the plant's preventive maintenance schedule. Collect PM records monthly and make records available to Ecology and EPA upon request.
E.8	Fuel	The furnace shall be fired by natural gas. Propane is the only backup fuel allowed.	The permittee shall collect monthly fuel usage records and make those records available to Ecology and EPA upon request.

THE DEPARTMENT OF ECOLOGY HEREBY ORDERS THAT all the defined authorities to construct, install, and operate from the Orders identified above are hereby preserved and incorporated into this Consolidated Order. The Orders and Amended Orders identified above are hereby rescinded in total and replaced by this Consolidated Order.

The permittee shall report to Ecology the results of compliance tests required by this Consolidated Order no later than the permittee's first Monthly Air Emissions Report submitted within 30 days after the permittee's receipt of the source test report.

Failure to comply with this Order may result in Ecology's imposition of civil penalties or other administrative or judicial actions necessary to enforce the terms of this Order.

Nothing in this order shall be construed to relieve Goldendale Aluminum Company of its obligations under any applicable local, state, or federal laws or regulations.

Ecology may modify, suspend, or revoked this Order in whole or part for cause, including but not limited to, the following:

1. Violation of any terms and conditions of this order.
2. Misrepresentation or failure to disclose fully all relevant facts in the Notice of Construction Application.

The provisions of this authorization are severable and, if any portion of this authorization, or application of any provisions of this authorization to any circumstance, is held invalid, the application of such provision to their circumstances, and the remainder of this authorization, shall not be affected thereby.

Appeal Process

This Order may be appealed. Your appeal must be filed with the Washington Pollution Control Hearings Board (PCHB) within 30 days of receipt of this Order.

The notice of appeal, to the PCHB, shall include, as attachments, a copy of this NOC Approval order, a copy of the NOC application and any additional information submitted to Ecology in support of the application. At the same time, a copy of the notice of appeal, without attachments, must be sent to the Department of Ecology. The addresses are listed below.

The addresses are listed below.

The Pollution Control Hearings Board	Carol Kraege
P.O. Box 40903	Department of Ecology
Olympia, Washington 98504-0903	Industrial Section Manager
	P.O. Box 47706
	Olympia, WA 98504-7600

Your appeal alone will not stay the effectiveness of this Order. Stay requests must be submitted in accordance with RCW 43.21B.320. These procedures are consistent with the provisions of Chapter 43.21B RCW.

Dated this 6th day of October, 2004 at Lacey, Washington.

Carol Kraege, P.E.
Industrial Section Manager
Solid Waste and Financial Assistance Program